

CLAIMS

1. A foraminated element for use in an assay for an analyte of interest, said element being of a substantially planar configuration and having an obverse face and a reverse face, the obverse face having applied thereto a specific binding partner for the analyte of interest, and the reverse face having a projection extending out of the plane of the element to facilitate manipulation of the element.
2. An element according to claim 1, wherein the foraminated element is a substantially planar disk shape.
3. An element according to claim 1, wherein the projection is a bollard positioned centrally on the reverse face.
4. An element according to claim 1, wherein the projection is a hook.
5. An element according to claim 1, wherein the element comprises a grid of substantially uniform foraminations extending across the width of the element.
6. An element according to claim 5, wherein the grid comprises a square mesh defining a regular array of apertures.
7. An element according to claim 5, wherein the grid thickness lies in the range of from 1 to 20 mm.
8. An element according to claim 5, wherein the grid thickness lies in the range of from 4 to 5 mm.
9. An element according to claim 5, wherein the grid is provided in the form of a disk the diameter of which lies in the range of from 10 to 50 mm.
10. An element according to claim 5, wherein the grid is provided in the form of a disk the diameter of which lies in the range of from 25 to 30 mm.

11. An element according to claim 5, wherein the foraminations are square apertures having an aperture size defined by an aperture side length in the range of from 3 to 4 mm.
12. An element according to claim 1, wherein a peripheral lip is provided around the element, said lip having a height in the range of from 1 to 2 mm.
13. An element according to claim 1, wherein the obverse face of the element is a flat lattice-shaped area upon which is deposited a layer of a bio-sensitive coating.
14. An element according to claim 1, wherein the obverse face of the element is coated with an antibody.
15. An element according to claim 14, wherein the antibody is a monoclonal antibody.
16. An element according to claim 1, wherein the projection is adapted for manipulation using forceps.
17. An element according to Claim 12, wherein the element is adapted for manipulation by an automatic handling system.
18. Apparatus for use in an assay to be conducted upon a fluid sample suspected of containing an analyte of interest, comprising a vessel for receiving a sample, and an element for capturing an analyte of interest, said element being insertable into said vessel for the purposes of the assay, wherein said element is a foraminated element having a substantially planar configuration and having an obverse face and a reverse face, the obverse face having applied thereto a specific binding partner for the analyte of interest, and the reverse face having a projection extending out of a plane of the element to facilitate manipulation of the element.

19. Apparatus according to claim 18, wherein the foraminated element has a peripheral lip provided around the element, said lip having a height in the range of from 1 to 2 mm.

20. Apparatus according to claim 19, further comprising a cradle for manipulating the element, said cradle comprising a plurality of legs attached to a support member in a manner such that said legs have upper and lower extremities projecting out of the plane of the support member, and capable of limited free-play movement about a point of support, in a radial direction with respect to a notional centre of said plane, whereby a compressive force on an upper extremity of a leg provokes an outward displacement of the corresponding lower extremity of said leg, and each of said legs has a groove at its lower extremity for engagement of the lip of said foraminated element by an interference fit, enabling the legs to be used to support or manipulate such an element.

21. Apparatus according to claim 18, wherein a plurality of differently coated elements are presented as a stack for insertion into the vessel, the respective elements in the stack being coated with a different specific binding partner for an analyte of interest.

22. Apparatus according to claim 18, wherein the foraminated element is provided with means for facilitating its convenient location within the vessel at a desired position.

23. Apparatus according to claim 22, wherein retaining means are provided for the foraminated element to retain same at the desired location within the vessel during use.

24. Apparatus according to claim 23, wherein said retaining means is a resilient element.

25. Apparatus according to claim 23, wherein said retaining means is a compression spring.

26. Apparatus according to claim 20, wherein the support member comprises a circular band and three legs are arranged, mutually equi-spaced, around a circumference of the band.

27. Apparatus according to Claim 18, wherein said vessel is a conduit or chamber in a continuous flow system, and said foraminated element is insertable into said conduit or chamber such that fluid suspected of containing an analyte of interest contacts said foraminated element by flow therethrough.

28. Apparatus according to claim 18, wherein the specific binding partner is an antibody.

29. An assay for enumerating an analyte of interest, said assay comprising:

- (a) providing a vessel capable of receiving a foraminated element and a sample fluid;
- (b) providing a foraminated element that is adapted to be inserted into said vessel, wherein said element has a substantially planar configuration and has an obverse face and a reverse face, the obverse face having applied thereto a specific binding partner for the analyte of interest, and the reverse face having a projection extending out of a plane of the element to facilitate manipulation of the element;
- (c) introducing sample fluid to the vessel;
- (d) permitting the sample fluid to contact the foraminated element, and optionally agitating the sample, so that the foraminated element will capture any analyte of interest by specific binding of the specific binding partner thereto;
- (e) removing the foraminated element from the vessel and applying the obverse face to a developer surface in a medium remote from the vessel to permit detection of binding events; and

- (f) enumerating developed events indicative of specific binding between the specific binding partner and analyte of interest.
30. An assay according to claim 29, wherein the element is as claimed in claim 2.
31. An assay according to claim 29, wherein apparatus as claimed in claim 18 is used to capture an analyte of interest from a sample fluid.
32. An assay according to claim 29, wherein presence of an analyte of interest is determined by removing the foraminated element from the vessel and contacting the obverse face of the foraminated element with the surface of a solid nutrient medium, and incubating the contacted nutrient medium in order to facilitate culture development.
33. An assay according to claim 32, wherein the nutrient medium is an agar plate.
34. An assay according to claim 29, wherein, said vessel is a conduit or chamber in a continuous flow system, and said foraminated element is insertable into said conduit or chamber such that fluid suspected of containing an analyte of interest contacts said foraminated element by flow therethrough.
35. An assay according to claim 29, wherein the specific binding partner is an antibody.
36. An assay according to claim 35, wherein the antibody is a monoclonal antibody.
37. A kit for conducting a quantitative assay upon a liquid sample, the kit comprising, a sample tube, a foraminated element insertable into the tube, wherein said foraminated element has a substantially planar configuration and has an obverse face and a reverse face, the obverse face having applied thereto a specific binding partner for an analyte of interest, and the reverse face having a projection extending out of a plane of the element to facilitate manipulation of the element.

38. A kit according to claim 37, wherein the element is an element as claimed in claim 2.

39. A kit according to claim 37, wherein a cradle is provided for mounting and manipulating foraminated elements.

40. A kit according to claim 39, wherein said cradle comprises a plurality of legs attached to a support member in a manner such that said legs have upper and lower extremities projecting out of a plane of the support member, and capable of limited free-play movement about a point of support, in a radial direction with respect to a notional centre of said plane, whereby a compressive force on an upper extremity of a leg provokes an outward displacement of a corresponding lower extremity of said leg.

41. A kit according to claim 40, wherein the support member comprises a circular band and three legs are arranged, mutually equi-spaced, around a circumference of the band.

42. A kit according to claim 40, wherein the legs have grooves near the extremities thereof arranged for engagement of an edge of the element, by an interference fit, enabling the legs to be used to support or manipulate such an element.

43. A kit according to claim 42, wherein the foraminated element is adapted to engage with the cradle for manipulation thereby by provision of a peripheral lip adapted to “snap-fit” into the grooves of the said legs of the cradle.

44. A kit for conducting a quantitative assay upon a liquid sample, the kit comprising, a sample tube, a foraminated element insertable into the tube, wherein said foraminated element has a substantially planar configuration and has an obverse face and a reverse face, the obverse face having a flat lattice-shaped area for receiving a layer of material sensitive to an analyte of interest, the reverse face having a projection extending out of a plane of the element to facilitate manipulation of the element, and at least one reagent

container providing therein a material to be applied to said flat lattice-shaped area for detecting the analyte of interest.

45. A kit according to claim 44, wherein the material to be applied to said flat lattice-shaped area is an antibody.